IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	Art Unit: 2615
C. Earl Woolfork	:	Examiner: Andrew Flanders
Confirmation No.: 3337	:	Filed: August 26, 2003
For: WIRELESS DIGITAL AUDIO SYSTEM	:	Customer No.: 68533

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Dear Sir:

The Applicant respectfully submits this Interview Summary conducted between Mr. Flanders, Mr. Woolfork, and Ms. Lyman on May 20, 2008 at 11 a.m. regarding the above-identified application. The Summary begins on page 2.

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SUMMARY OF EXAMINER INTERVIEW

The interview was held at 11:00 a.m. on May 20, 2008 by telephone. Mr. Andrew Flanders, Mr. C. Earl Woolfork, and Ms. Megan Lyman were all present. The Applicant appreciates the courtesy extended by Mr. Flanders during the interview.

A.   *Discussion of Amendments to the Claims further disclosing the Fuzzy Logic Subsystem and Amendment to Figure 3 locating the Fuzzy Logic Subsystem within the Direct Conversion Receiver*

Amendments to the Claims and Drawings submitted in the Request for Continued Examination, filed April 29, 2008, were discussed. In Particular, in Claim 53, the additional language relating to the implementation of the fuzzy logic subsystem was discussed. It can be noted that similar amendments were made to Claims 19, 33, 34, 43, 44, 53, 54, 55, 57, and language contained in newly submitted Claim 61 in the above-named RCE. Examiner Flanders raised concerns regarding whether such amendment was supported by the specification. This coincided with a similar concern regarding the amendment to Figure 3, also contained within the RCE, which places the fuzzy logic subsystem within the direct conversion receiver. This led to a discussion both regarding support for the fuzzy logic subsystem in the Parent (App. No. 10/027,391) and the

Continuation application, and to whether one skilled in the art would be aware that the fuzzy logic subsystem would be located within the direct conversion receiver.

1. <u>Support for the Fuzzy Logic Subsystem being Located Within the Direct Conversion Receiver</u>

Mr. Woolfork identified support for the fuzzy logic subsystem's location in multiple areas. Moreover, the RCE submission cites support from the Continuation and Parent application for the location of the fuzzy logic subsystem. During the interview, Parent ¶ [0014] was identified as supporting the amendments ("and a unique code word spreads the signal spectrum."). Paragraph [0015] of the Parent was also discussed as further support ("The direct conversion receiver **56** may provide a method for down converting the received signal while utilizing timing and synchronization to capture the correct bit sequence embedded in the received spread spectrum signal.").

2. Discussion Regarding One Skilled in the Art Would Know Where the Fuzzy Logic Subsystem Would be Located

In general, as discussed and is well known in the art, spread spectrum communication occurs via the transmission of data through a channel (a wireless channel) by use of a code word sequence that spreads the signal spectrum, and then receipt of the transmitted data is by use of the identical code word sequence that serves to despread the signal spectrum in the receiver. The despreading takes place within the correlator of the spread spectrum receiver. Due to the harsh wireless channel environment, the correlator can process an unintended code word, which will cause interference. To prevent this type of interference, it is important to capture the intended code word sequence prior to digital demodulation.

Following the above rationale, the fuzzy logic subsystem would have to be located within the direct conversion receiver (DCR), and it would be apparent to one skilled in the art. Moreover by looking at Figure 3, the band pass filter passes the appropriate frequencies and then the DCR that follows has a DSP inside, the intended spread spectrum signal must be despread before any other action may occur. After the signal is despread, there is

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no need for the unique user code. Because the fuzzy logic system assists in maintaining fidelity between the transmitted and received signal, it must be located in a position before the signal is despread. The signal must be despread in order to get the data, as is apparent to one skilled in the art. As disclosed in paragraph [0011] of the Continuation, the fuzzy logic system allows for greater user separation between the transmitter and receiver of a particular user and the transmitter and receiver of any other user(s); it optimizes code division. The operation of the present invention uses the same code generated in both the receiver and transmitter with some added delay due to propagation through the channel. As is known in the art, some code design must be involved with low cross correlation properties. This must be done so that the system does not compare to another code, otherwise the codes look the same and interference is present. The fuzzy logic subsystem identifies the proper code and minimizes interference from other codes present in the vicinity. Examiner Flanders agreed to review the amendments to the Claims, as well as new Claim 61 and Figure 3 with this in mind.
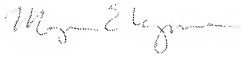
B. Claim 61: Claiming an Intended Use; Running

The parties also discussed new Claim 61, presented in the above-named RCE. The claim, directed to the apparatus, discloses the invention's use while the operator is running. The Examiner expressed initial concern regarding the use environment, suggesting that the Claim would be in a better position for allowance if re-written as a method claim, perhaps using language such as "activated during a run" would be helpful. The presence of the running limitation would not be anticipated by Lavelle (U.S. Patent No. 6,678,892), which discloses an entertainment system for use in a vehicle. It was agreed that a proposed amendment to Claim 61 would be generated for further review.

C. General Outcome

The interview was helpful to all parties. Examiner Flander's suggestions were well-taken, and his patience and effort during the interview were very much appreciated. The Examiner's concerns regarding amendments to the Claims named above, and Figure 3 were addressed, as well as putative concerns regarding new Claim 61. Mr. Woolfork was able to provide further explanation regarding the fuzzy logic subsystem, a principal

aspect of his invention. The applicant wishes to thank Mr. Flander's for his time and effort.

Respectfully Submitted,

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